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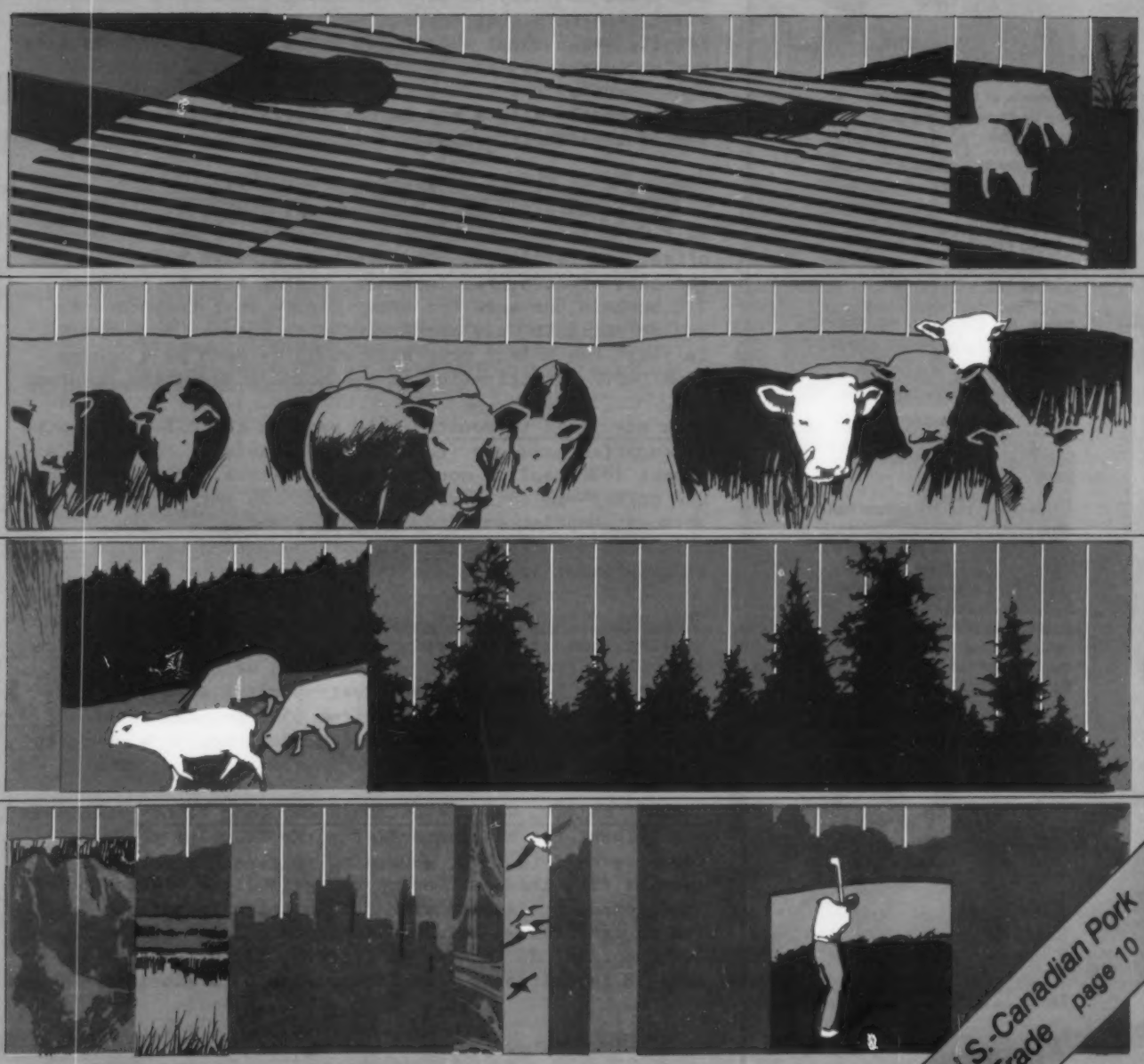
Land for All Reasons



U.S.-Canadian Pork Trade page 10

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PERSPECTIVES

Many of our competitors are encouraging their farmers to produce more grain, while U.S. farmers are idling acreage to cut back on price-depressing world supplies. U.S. wheat production may be down about 3% from last season, and U.S. feed grains output down about 7%.

On the other hand, foreign grain output is expected to increase, not only in many importing countries, but also among exporters that compete with us for markets. As a result, world wheat output may set a record, and coarse grains output may nearly match last season's level. If this happens, the U.S. market share of world wheat trade will probably slip a bit in the 1982/83 season, but we should benefit from expanded demand for feed grains.

Reduced U.S. acreage doesn't guarantee reduced U.S. crops. Analysis indicates that U.S. average yields usually rise as U.S. acreage declines. More important, weather could offset (or reinforce) the impact of acreage cutbacks. In the case of corn, for instance, yields tend to increase 1.8 bushels per acre for every degree that temperatures are below their July norms, and vice versa. A 5% change in yield can affect crop size about as much as a change from 0-50% participation in the acreage reduction program.

Pork may yield to poultry this year in the U.S. per capita consumption category (retail weight basis). Forecasters expect 1982 poultry consumption--broilers, other chicken, and turkey--to total around 61.8 pounds per person, while pork consumption may drop to 55.8 pounds. The reason: this year's sharp cutback in pork output--down maybe 13% to the lowest level since 1978.

This would be the first time ever that USDA figures show poultry consumption topping pork, though the numbers were just about even in 1978. Consumption of both meats will probably be lower than last year--poultry down from 62.4 pounds per person, pork down from 65.0 pounds. Beef eating, too, is likely to decline--down nearly a pound to 76.4 pounds per person.

Fresno, Calif., was the nation's top farm county--the only one to beat the billion dollar mark--in value of farm products sold in 1978, according to recently released results from the last Census of Agriculture. Weld County in Colorado was second with $818 million in sales. Fresno led in crop sales, Weld in livestock sales. Of the top 100 counties, 21 were in California, 13 in Texas, 9 in Iowa, 8 in Illinois, 7 in Kansas, and 6 in Florida.

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How are we allocating our nearly 2.3 billion acres of land? Geographer H. Thomas Frey finds vast stretches of land serving a multitude of purposes as he inventories the major uses of U.S. land, examines how these uses have changed in recent decades, and addresses the issue of who controls the acreage.

Direct Meat Marketers Fatten Farm Profits, Trim Prices *by Martha R. Evans* 8

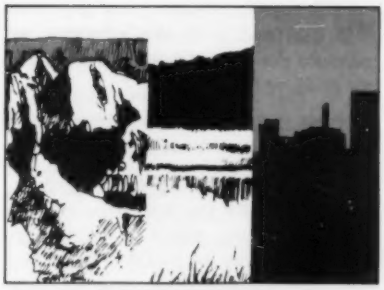
Fruits, vegetables, and flowers aren't the only home-grown products that farmers sell directly to consumers. Some farmers have turned livestock operations into thriving direct-marketing businesses. Economist Hal Linstrom discusses a study of nine Texas farm firms that handle cattle and hogs from production through retail sale.

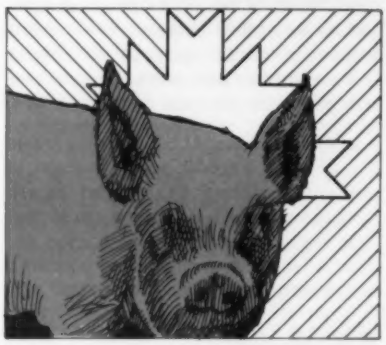
Two-Way Pork Trade Tilts in Canada's Favor *by Pat Weisgerber* 10

Pork flows both ways across the U.S.-Canadian border, but in the last few years Canada has captured a big lead. Canadians are looking to U.S. markets to help support expansion of their hog industry. Although Quebec and Ontario may meet with some success in the U.S. Northeast, Canada's western provinces will have a much tougher time competing for U.S. northwestern markets.

Counties Without Doctors *by Virginia Getz* 13

A recent study found 138 U.S. counties without an active physician. This means that about a half million rural residents must leave their home counties to obtain professional health care. Nonphysician counties tend to have smaller populations with lower per capita incomes than other rural counties.





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Land for All Reasons

We live on it, build on it, and grow our food on it. As a nation, we measure our strength, wealth, and even our pride by it.

It's land, one of our richest and most abundant national treasures.

How are we allocating these land resources? That's the key question behind an upcoming report by geographer H. Thomas Frey of USDA's Economic Research Service. From recently compiled results of the 1978 Census of Agriculture and other sources, Frey inventories the major uses of U.S. land and examines how these uses have changed since previous censuses.

According to Frey, U.S. land area totals about 2,264,000,000 acres, enough to make the United States the fourth largest nation on earth. Although all that land breaks down to only 10 acres per person, most Americans are clustered around urban centers.

Despite a tripling of the U.S. population since the turn of the century, our cities—in fact, all our urban and rural housing, shopping, manufacturing, and transportation needs—occupy less than 5 percent of our land, Frey says.

As a result, vast stretches of land remain available for a multitude of "extensive" uses: crops, pasture, forests, recreational parklands, wildlife sanctuaries, defense installations, and so on.

Frey offers three alternate ways to classify the many uses for which U.S. land is allocated:

- If the distinction is based on agricultural versus nonagricultural uses, about 1,238,000,000 acres—or 55 percent of total U.S. land area—can be classified as agricultural. Nonagricultural land uses take up the remaining 1,026,000,000 acres.

- U.S. land can also be divided into five categories of primary uses. Frey counts 471 million acres of cropland; 587 million acres of grassland pasture and range; 703 million acres of forestland; 158 million acres in rural transportation, parks and recreation, military, and other service-type uses; and 345 million acres as urban and unclassified land, such as desert, tundra, and swamps.

All our urban and rural housing, manufacturing, shopping, and transportation needs occupy less than 5% of our land.

- Finally, Frey classifies land on the basis of ownership, or who has control over the land's use. He says that about 1.37 billion or 60 percent of U.S. land acres are privately owned by individuals, businesses, and Indian tribes. Another 742 million acres (33 percent) are owned by the federal government, and 155 million acres (7 percent) are owned by state and local governments.

Overlapping Boundaries

These three alternatives for classifying U.S. land criss-cross each other's boundaries. For example, although 55 percent of U.S. land is in agricultural use, only 45 percent is found on privately owned U.S. farms. The main reason: A lot of grazing land is federally owned.

Perhaps the closest comparison is between the five categories of primary uses and the agricultural vs. nonagricultural use classification. Frey's cropland total of 471 million acres falls entirely into the agricultural category. This

More Than Half of U.S. Land Is Devoted to Agricultural Uses*

Land use	Acreage	Percentage of all U.S. land
	million acres	*percent*
Agricultural		
Cropland used for crops[1]	369	16.3
Idle cropland	26	1.1
Cropland used only for pasture	76	3.4
Grassland pasture and range	587	25.9
Forestland grazed	172	7.6
Farmsteads, farm roads and lanes	8	.4
Total agricultural land	1,238	54.7
Nonagricultural		
Forestland not grazed[2]	531	23.5
Rural transportation uses	27	1.2
Recreation and wildlife areas	98	4.3
National defense areas[3]	25	1.1
Urban and wasteland[4]	345	15.2
Total nonagricultural land	1,026	45.3
Total Land Area	2,264	100.0

[1] Includes cropland harvested, crop failure, and cultivated summer fallow. [2] Excludes forestland in parks and other special uses. [3] Federal land administered by the Department of Defense for military purposes, and land administered by the Energy Research and Development Administration. [4] Includes unclassified special uses, marshes, open swamps, bare rock areas, desert, and tundra.
*Data for 1978.

figure includes 1978's 369 million acres of cropland used for crops, 26 million acres of idle cropland, and 76 million acres of cropland used only for pasture.

All 587 million acres of grassland pasture also qualify as agricultural land.

The 703 million acres of forestland, however, fall on both sides of the fence. About 172 million acres are grazed, so they're put in the agricultural category. Another 531 million acres aren't grazed, so Frey lists them as nonagricultural.

Some people count almost all forestland as agricultural land, even if it's not grazed, Frey notes. In this case, more than three-fourths of U.S. land is devoted to agricultural uses.

Besides forestland not used for grazing, Frey's nonagricultural land listing includes 27 million acres of roads, railroads, and airports in rural areas; 98 million forested and unforested acres of federal and state parks, wildlife refuges, and other recreational sites; and 25 million acres for military bases and other national defense and nuclear energy purposes.

The remaining 345 million nonagricultural acres are in urban and unclassified land, marshes, swamps, bare rock areas, desert, and tundra. A good portion of this land is in Alaska. Frey estimates that urbanized areas and places of 2,500 or more people outside of urbanized areas (this takes in almost three-fourths of the U.S. population) probably occupy fewer than 45 million acres. Up-to-date figures won't be available until detailed results are released from the 1980 population census.

Trends in Land Use

"By 1920, most of America's suitable, native grassland had been converted to cropland," Frey says. "Since then, the broad categories of land use have tended to change more gradually."

From 1920 to 1950, crop and forestland acreage was nearly stable, while pas-

Between 1949 and 1980, cropland used for crops rose from 333 million acres to 387 million.

ture and rangeland declined and special use acreage—highways, recreation areas, and so on—increased. In the 1950's and 1960's, urban areas and special use acreage expanded rapidly as suburbs started growing up around cities and interstate highway construction accelerated.

At the same time, land used for crops declined due to surplus agricultural production. Between 1949 and 1969, cropland used for crops dropped from a record 387 million acres to 333 million. Some cropland shifted to pasture, slowing the downturn in grassland acreage, while the amount of idled cropland grew from 22 million acres to 51 million.

"With the 1970's, however, came a very significant development. Cropland acreage, which had been trending down since 1949, changed direction and turned up slightly," Frey says.

"This turnaround is tied to the increase in planted acres, which, in turn, is tied to the expansion in export demand for our crop production since 1972."

Between 1969 and 1980, cropland used for crops rose from 333 million acres to 387 million—in other words, back to the 1949 record high. The major export crops of wheat, corn, and soybeans accounted for nine-tenths of the increase.

Idled cropland returned to near-minimum levels—26 million acres by 1978 (a 1980 figure isn't available). Idled cropland would have been several million acres lower without an acreage control program that year, Frey says.

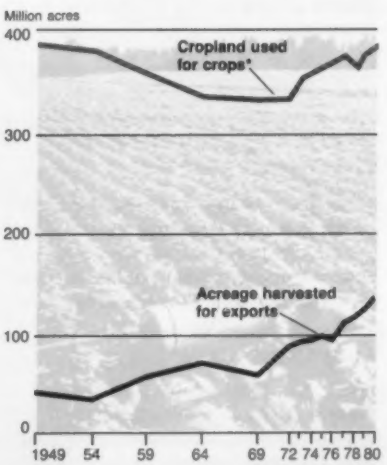
"All rural land uses have been affected by this shift back into crops," he explains.

"The first thing it did was take up the idle cropland. Then it began to cut down on rotation pasture—then, to a limited extent, on noncropland pasture and forestland. Of course, this wasn't unique. It had happened before. But, in the past, the conversion of land to crops was more than offset by cropland abandonment and urban development."

Between 1969 and 1978, pasture and rangeland acreage (including cropland used only for pasture) dropped from 692 million acres to 663 million, and forestland slipped from 723 million to 703 million. While the totals overstate the actual changes because of inconsistencies in surveying and classifying land from one year to the next, they do point out definite declines in these uses.

The decline in pasture and rangeland is partly attributable to the increase in

Acreage Used for Crops Turned Up With the Expansion of U.S. Exports in the 1970's



*Excludes idle cropland and cropland used only for pasture.

cropland acreage, according to Frey. Pasture and rangeland had been declining steadily before 1969, but with a difference.

"Decreases identified in earlier inventories were limited largely to arid rangeland. In contrast, at least part of the recent downturn involved high quality pasture in humid regions," Frey says.

Other important shifts in land uses also occurred in the 1969–78 period. Land used for transportation, recreation, and other special uses increased 17 million acres. Most of the converted acres were wildlands in the West and Alaska that were reclassified to parks, official wilderness areas, or wildlife areas. Some arid rangeland was also involved, but very little land of cropland quality was taken.

Urban areas probably absorbed less than a million acres a year from 1950 to 1970, but figures for the last decade aren't yet available.

Who Owns the Land?

Land ownership, Frey's third way of looking at the land use issue, has changed very gradually, he says. The most significant development in recent years is the continuing shift of large chunks of federal land in Alaska to state ownership.

Altogether, the federal government owns about a third of U.S. land, three-fifths is privately owned, and less than a tenth is owned by state and local governments.

"The large federal acreage (742 million acres) was mainly acquired as part of the original public domain, but it also includes some 60 million acres acquired by purchase and other means," Frey says.

About half of federal acreage is in the West, and most of the remainder is in Alaska. Some 200 million acres of federal grassland, shrubland, and forest are primarily used for grazing by ranchers.

"The proportion of land in crops, pasture, forestry, and other uses varies greatly across the country," says geographer H. Thomas Frey. See page 15 for a full page of charts, facts, and figures on land use by regions.

"Very little of the land in federal ownership is suitable for crop use," Frey adds. "The last comprehensive survey of federal land found only 3 million acres suitable for crop use and only 1 million actually used for crops in the 17 western states. The proportion of federal land that is suitable for crops is somewhat higher in the East, but the total acreage is small."

Besides federal land, state and local governments hold 155 million acres for a variety of uses, including forests, parks, wildlife areas, city streets and state highways, and institutions such as schools, hospitals, and prisons. Not surprisingly, the largest acreages are owned by the western states and Alaska.

The rest of U.S. land—a whopping 1,367,000,000 acres—is privately owned. No more than 4 percent of that is Indian land. Reservations occupy about 52 million acres.

Roughly 60 percent of Indian land is grassland or rangeland, and another 25 percent is forestland. Less than 5 percent is used for crops, and the remaining 10 percent serves other purposes.

Excluding Indian land, privately owned land occupies 58 percent of U.S. land area and accounts for 99 percent of the nation's cropland, 60 percent of its grassland and pasture, and 54 percent of its forestland.

"As these percentages indicate, most of the land with relatively favorable physical attributes is privately owned," Frey says.

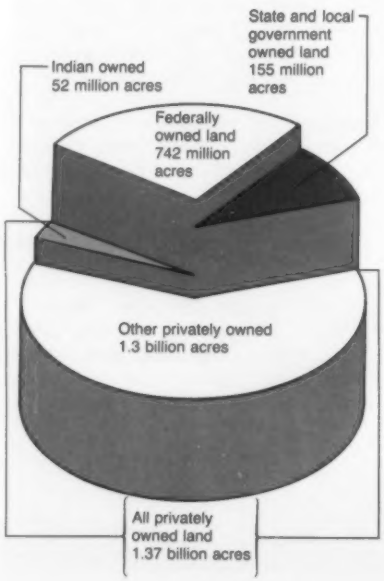
According to a recent study of foreign ownership, foreign sources reported that they owned 12.7 million acres of U.S. agricultural land as of the end of last year.

That's slightly less than 1 percent of all privately owned U.S. agricultural land. More than 60 percent of this land, however, is actually owned by U.S. corporations in which foreign shareholders own a 5 percent or greater interest.

Forestland accounts for slightly more than half of all foreign-reported acreage, cropland for 13 percent, and pasture and other land for the rest. □

[*Based largely on material provided by ERS geographer H. Thomas Frey of the Natural Resource Economics Division, and on information in his soon-to-be-published report:* ***Major Uses of Land in the United States: 1978.***]

Who Owns the Land?


State and local government owned land 155 million acres
Indian owned 52 million acres
Federally owned land 742 million acres
Other privately owned 1.3 billion acres
All privately owned land 1.37 billion acres

AGRICULTURAL ROUNDUP

Exports Fuel Acreage Gains

U.S. harvested acreage increased about a fifth from 1971 to 1981, boosted largely by the dramatic growth in export demand.

Last year, farmers harvested more than 356 million acres of the 21 principal U.S. crops, 61 million more acres than 10 years earlier. The output from roughly two out of every five acres was destined for foreign markets, compared with only one out of five acres in 1971.

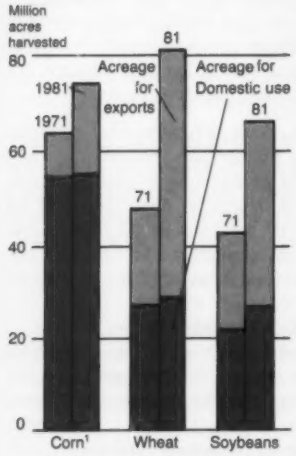
Without the rapid expansion in exports during the 1970's, U.S. crop acreage would probably have remained fairly constant. Improved yields would have covered most of the growth in domestic demand without bringing more land into production.

Instead, 11 of the 21 major crops registered increases in harvested acreage, for a combined gain of 76 million acres. The other ten crops showed a combined loss of just 15 million acres. Nine-tenths of the increase scored by the first group came from the "big three" crops—corn, wheat, and soybeans—which together accounted for nearly 67 million additional acres.

Corn, wheat, and soybeans gained so much ground almost entirely because of the growth in export sales (see accompanying chart). Corn and wheat export volume increased more than 150 percent between 1971 and 1981, and soybean volume more than doubled.

In the current trade year, exports are expected to account for about 26 percent of 1981 U.S. corn production, up from 14 percent in 1971. For wheat, the share is 64 percent, up from 42 percent in 1971; for soybeans, 59 percent, up from 48 percent.

The Expansion in Corn, Wheat, and Soybean Area Reflects a Sharp Increase in Exports



Breakdowns of harvested acreage into domestic vs. export use are based on the percent of U.S. production exported of each crop.

¹Corn harvested for grain only. Excludes acreage for silage and forage (9.5 million acres in 1971; 8.6 million in 1981).

Acreage Harvested to Major Crops Increases 21% Since 1971; 11 of 21 Crops Show Gains

	1971	1981	Change
	thousands of acres		*percent*
Crops with more acreage:			
Corn[1]	73,631	83,207	+13%
Wheat	47,685	80,948	+70%
Soybeans	42,705	66,688	+56%
Cotton	11,471	13,821	+20%
Sunflowers	—	3,811	—
Rice	1,818	3,804	+109%
Dry edible beans	1,296	2,201	+70%
Peanuts	1,455	1,488	+2%
Tobacco	838	966	+15%
Sugarcane	648	754	+16%
Popcorn	174	247	+42%
Total, crops with more acreage	181,721	257,935	+42%
Crops with less acreage:			
Hay	61,355	60,212	-2%
Sorghum[1]	19,828	15,564	-22%
Oats	15,705	9,411	-40%
Barley	10,104	9,151	-9%
Potatoes	1,391	1,232	-11%
Sugarbeets	1,342	1,230	-8%
Rye	1,751	697	-60%
Flaxseed	1,545	617	-60%
Sweet potatoes	113	109	-4%
Dry edible peas	203	108	-47%
Total, crops with less acreage	113,337	98,331	-13%
All 21 crops[2]	**295,058**	**356,266**	**+21%**

[1]Includes acreage for silage and forage. [2]These 21 crops typically account for about 97% of total U.S. harvested acreage.

Rural America Narrows Funding Gap

Federal funds going to rural areas and small towns grew more rapidly in the late 1970's than federal funding to metropolitan areas, but rural areas still lagged behind.

Federal funds reaching nonmetro counties averaged $1,994 per person in 1979, up 57 percent from 1976, according to J. Norman Reid and Eleanor Whitehead of USDA's Economic Research Service. Funding to metro counties averaged $2,300, up 48 percent since 1976.

Federal funding includes payments, loans, and other transfers of money to support federal, state, and local programs in agriculture, forest management, housing, transportation, education, health, public assistance, Social Security, veterans' benefits, defense, energy, and so on. Figures on the metro-nonmetro distribution of funds are based on the roughly 87 percent of federal funds that can be reliably traced to county levels, say the researchers.

Although rural areas made some progress in catching up with more urbanized counties, the figures may overstate their position. A much larger share of nonmetro funding is in the form of loans and loan guarantees—22 percent compared with only 12 percent of metro funding. Loans must be repaid, so they have less value than grants.

Nonmetro counties also received a much larger share of their funds for income security programs, especially retirement and disability programs. Forty percent of nonmetro funds were for such programs, compared with 34 percent of metro funds.

Direct Meat Marketers Fatten Farm Profits, Trim Prices

Fruits, vegetables, and flowers aren't the only home-grown products that farmers sell directly to consumers. Some farmers have turned livestock and poultry operations into thriving direct-marketing businesses.

In surveys covering 22-states, farmer-to-consumer livestock and livestock product sales represented only about 15 percent of all direct marketing receipts. However, this 15 percent added up to nearly $90 million in annual farm earnings, according to Hal Linstrom of USDA's Economic Research Service.

Included in the figure are direct sales of livestock and poultry meat, livestock byproducts, eggs, and live animals. Dairy product sales, which are reported separately, would raise the total another $44 million. Dollar volume in all categories is probably higher today because the surveys date from 1978 to 1980.

Within the livestock marketing group are some of the most specialized of direct sellers: farmers who raise, slaughter, process, and retail their animals. No one knows for sure how many operations fit this description nationwide, but interest in this type of marketing has been growing, Linstrom says.

To learn more about direct marketers of livestock and meat, the Economic Research Service and the Texas Agricultural Experiment Station conducted a study of nine Texas farm operations that handle livestock from production through retail sale. For comparison, analysts also looked at eight nonfarm operations that buy livestock and custom slaughter the animals for retail and wholesale customers.

The recently completed study focused on beef and pork operations, although some of the findings might apply to other livestock products as well. Data cited apply to 1980.

How They Operate

Both the farm and the nonfarm firms were relatively small. The farmer-owned operations slaughtered an average of 47 cattle and 24 hogs a week, while the nonfarm firms averaged 42 cattle and 17 hogs.

All the operations provided custom slaughtering and processing services, including killing and skinning the animal, dividing the carcass into cuts, and wrapping, freezing, and smoking the meat according to the customer's preference. A few rented locker space to their customers for storage of frozen meat.

Farmers' Direct Sales of Livestock and Poultry Products Totaled Almost $90 Million in Surveys Covering 22 States

	Livestock and poultry sales
	dollars
1978 Survey	
Indiana	304,000
Michigan	1,112,000
New Jersey	1,262,000
North Carolina	50,000
Ohio	1,343,000
Pennsylvania	8,775,000
Six state total	12,847,000
1979 Survey	
Colorado	1,654,000
Maryland and Delaware	6,496,000
New York	18,882,000
Connecticut, Massachusetts, and Rhode Island	7,244,000
Tennessee	398,000
Wisconsin	17,008,000
Nine state total	51,681,000
1980 Survey	
California	1,746,000
Illinois	8,357,000
Missouri	2,691,000
Maine, New Hampshire, and Vermont	6,274,000
Texas	5,031,000
Seven state total	24,099,000
All Three Surveys	
Total, 22 states	88,627,000

Totals may not add exactly due to rounding. Some states were grouped for reporting purposes because of the small number of farms and sample size.

In most cases, business was divided between custom slaughtering for retail and wholesale customers and retail sales of fresh meat cuts. Retailing, rather than selling to butchers and other wholesale buyers, has been the part of the business that has shown the most rapid growth over the last few years, according to Linstrom.

Some firms charged up to $10 a head for custom slaughtering, while others had no extra charge—as long as the customer left the hide and byproducts. Cattle hides sell for about $45 per cwt. Byproducts are about 40 percent of the animal's live weight and contribute 5 to 10 percent to packers' gross sales.

On the average, farmers charged slightly more than $4 a head to slaughter a cow or steer—in addition to keeping the hide and byproducts—and 13 cents per pound of carcass weight for processing. Nonfarm firms charged about the same for custom slaughter but around 16 cents per pound for processing.

For hogs, farm firm slaughter charges averaged $6.25 plus byproducts, and processing charges averaged 13 cents per pound. Nonfarm firms charged an average of $9.15 per hog plus byproducts for slaughter and 17 cents per pound of carcass weight for processing.

Cutting Out the Middleman

The Texas producers in the study said they went into the direct marketing business to cut out the "middleman" and, thus, earn a greater profit. In general, they seem to have been successful.

They showed better returns for both steers and hogs compared with sales through conventional outlets. Returns averaged $51 higher per steer and $19 higher per hog for their meat cuts, and

This study suggests that direct marketing of livestock products can be profitable for small and part-time farmers and for consumers as well.

that's after figuring in a return to cover the additional capital and management required in such operations.

Producers saved on transportation and selling costs, such as commissions and auction fees. They also gained some of the profits normally added in the slaughtering, processing, and retailing stages.

Their retail customers also benefited. Consumers saved 10 to 12 percent off supermarket prices for their meat purchases, Linstrom says. Eight beef and pork cuts averaged $1.95 per pound when retailed at farmer-operated businesses, $1.98 at the nonfarm custom slaughter firms, and $2.21 at butcher stores and supermarkets.

The integrated farmer operations sold mostly ungraded beef comparable to USDA Good. Supermarkets and specialty meat stores sold USDA Choice beef. The quality of pork was about the same for all types of businesses.

"This case study suggests that direct marketing of livestock and livestock products can often be profitable for small and part-time farmers and for consumers as well," Linstrom says.

"To take advantage of this means of marketing, farmers need slaughter, processing, and retailing facilities and perhaps some extra pasture land. Consumers need home freezers or access to frozen food storage lockers." □

[Based on information supplied by ERS economist Hal Linstrom of the National Economics Division, and material published in ***Farmer-to-Consumer Direct Marketing*** *(SB–681) by Peter Henderson (now retired) and Linstrom.]*

Cutting Out the Middleman

Three surveys by USDA's Economic Research Service show that both farmers and consumers can profit from direct marketing.

These surveys, mandated by the 1976 Farmer-to-Consumer Direct Marketing Act, indicate that consumers benefit from access to fresher produce and lower prices than generally available in conventional markets. Farmers can often reduce their marketing costs and capture some of the "middleman's" profits, yet still pass savings on to consumers.

Perhaps for these reasons, the surveys found that a surprising number of farmers market at least some of their products directly to consumers.

The first survey covered Indiana, Michigan, New Jersey, North Carolina, Ohio, and Pennsylvania. It showed that 62,000 farmers (about 15 percent of all farmers in the six states surveyed) sold $260 million worth of farm products through direct marketing in 1978.

The next survey covered nine states: Colorado, Maryland, Delaware, New York, Connecticut, Massachusetts, Rhode Island, Tennessee, and Wisconsin. It found 44,000 producers (15 percent of farmers in the states surveyed) who sold $260 million worth of products through direct marketing in 1979.

The most recent survey for 1980 covered seven states: California, Illinois, Missouri, Maine, New Hampshire, Vermont, and Texas. About 21,000 farmers (5 percent of farmers in the states surveyed) reported selling $126 million worth of farm products through direct marketing.

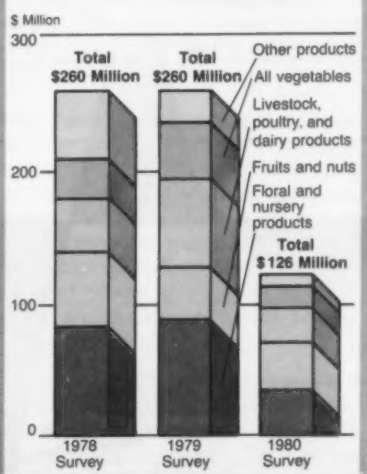
In each survey, the leading products sold by dollar value were floral and nursery products, apples, strawberries, peaches, sweet corn, and tomatoes.

If the results are typical nationwide, these surveys suggest that:

- Most direct-selling farmers live within 20 miles of the nearest city, thus putting them in range of bargain-seeking consumers.
- About 6 out of 10 direct marketers work at farming only on a part-time basis and earn other income from off-farm jobs. Sixty percent have farm sales receipts of less than $20,000 a year.

Given the economic incentives, more and more producers and consumers are expected to deal directly in coming years, says economist Hal Linstrom. Direct farmer-to-consumer marketing is most likely to increase for relatively high-value farm products, such as meats for home freezers and frozen food lockers, fresh fruits and vegetables, floral and nursery products, Christmas trees, and firewood.

Floral and Nursery Products Are the Leading Direct Sales Items



Two-Way Pork Trade Tilts in Canada's Favor

Pork and live hog shipments flow both ways across the U.S.-Canadian border, with neither country maintaining a lasting advantage in the trading relationship.

The net balance of pork trade has shifted six times since 1960. In 7 of the last 22 years, the trade favored the United States. In the other 15 years, Canada sold more pork to U.S. buyers than U.S. producers sold to Canada.

In the last 3 years, however, Canada has captured a big lead—Canadian shipments of pork to the United States have averaged four times greater than U.S. shipments to Canada. In both 1980 and 1981, Canada's net trade advantage was more than 76,000 metric tons of pork—an all-time high.

For live hogs, U.S. shipments to Canada come to only several hundred head a year, while shipments in the opposite direction are substantial. They've ranged from 16,000 hogs in 1969 to nearly a quarter-million in 1980. From 1978 to 1981, Canada's advantage has averaged about 183,000 head a year (the rough equivalent of 14,000 metric tons of pork).

Quebec and Ontario may soon be exporting sizable amounts of pork and pork products to the U.S. Northeast.

The recent tipping of the trade scales heavily in Canada's favor has probably had little impact on prices and profitability in the U.S. hog industry. The amount of pork and hogs coming in from Canada constituted only about 3 percent of total U.S. pork consumption in the last 3 years.

For Canada, however, the favorable balance is very important. Canada's edge (exports minus imports) in combined hog-pork trade with the United States accounted for nearly 22 percent of Canada's total production from 1979 to 1981. For the future, Canadians are looking to the U.S. market to help support expansion of their hog industry.

How can Canadian producers compete with a substantially larger U.S. hog industry? Equally important, what are the overall prospects of greater Canadian penetration of the U.S. pork market?

The answers to these questions involve currency exchange rates, price relationships, and the differences and similarities in both nations' hog sectors.

How So Competitive?

Exchange rates are probably the main reason why Canadian producers have gained ground in the U.S. market. Since 1976, Canadian money has depreciated about 20 percent relative to the U.S. dollar.

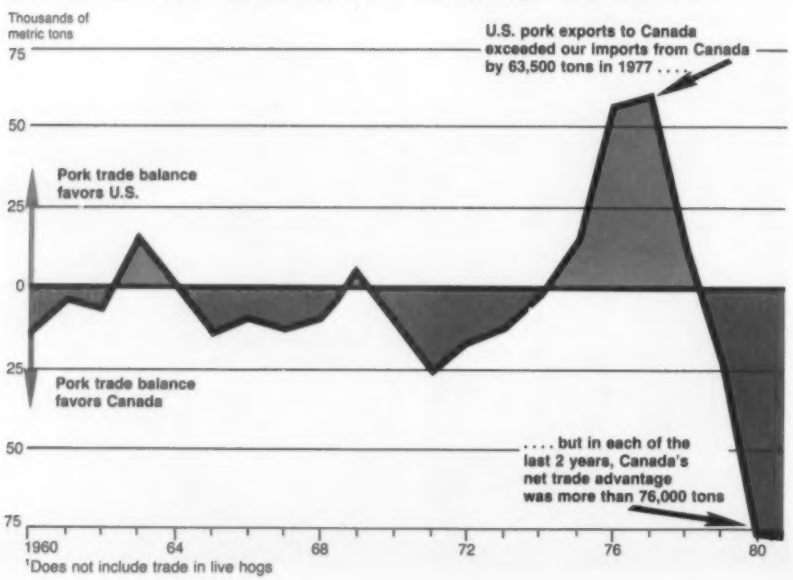
This gives Canadian producers a big edge in selling to U.S. buyers and has encouraged the southward flow of their excess hog production. It has also made Canadians into tougher rivals for Japan's lucrative pork import market.

Another important factor is the lack of trade barriers to impede shipments in either direction. This helps keep Canadian hogs competitive in the U.S. market, but it also leaves Canada vulnerable to developments in the U.S. meat sector.

The reason is that the Canadian meat sector is dwarfed by its U.S. counterpart. Over the last 20 years, U.S. beef cattle slaughter averaged 40 million head a year and hog slaughter averaged 86 million head. Canadian slaughter averaged only 4.3 million head of cattle annually and 9.7 million hogs.

Early last year, the heavy buildup of U.S. fed cattle overflowed onto the Canadian market. In 1981's first quarter, an estimated one in every 10 head slaughtered had been fattened in the United States. This reportedly caused many of Canada's feedlot owners to cut back and, in some cases, shut down their operations.

U.S.-Canadian Pork Trade Balance Has Turned Heavily in Canada's Favor[1]



[1]Does not include trade in live hogs

Reliability a Key

Besides Canada's vulnerability to events it can't easily control—such as developments in the U.S. livestock industry—it also faces internal obstacles that limit its ability to supply pork and hogs to the U.S. market.

In a survey of U.S. meat buyers to determine the potential for selling Alberta pork in the western United States, the responses had a common theme: Canada will have to show a strong commitment to remain in the market as a permanent, consistent supplier.

This is an understandable position for U.S. meat buyers to take because the U.S. Corn Belt has provided such consistent and reliable service to hog deficit areas for many years. Among the five important hog-producing provinces in Canada, only Ontario has consistently demonstrated the reliability we have come to expect from the U.S. Corn Belt.

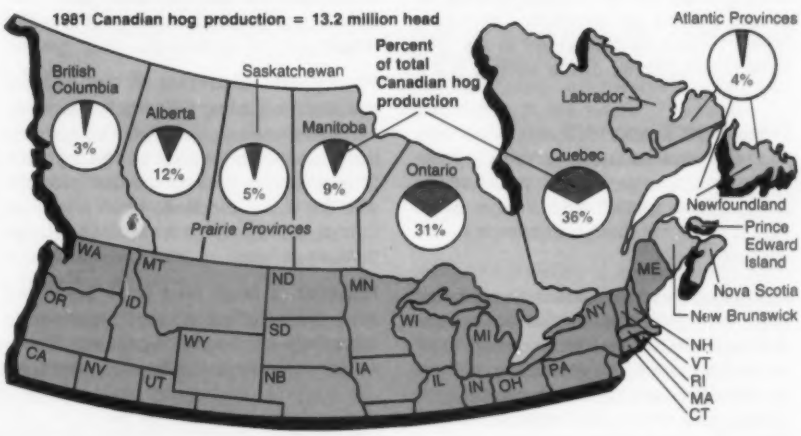
With a secure feed supply and a concentrated, well-established and well-organized hog industry, Ontario may produce significantly more hogs in the 1980's than required to meet the needs of its 8.5 million people. In the 1970's, this province became more or less self-sufficient in hogs.

Quebec, the other major hog-producing province in eastern Canada, doubled its hog production from 1976 to 1980. From the early 1970's to the early 1980's, it went from an annual production deficit of 100 million pounds to a surplus of 150–200 million pounds for its 6.4 million people.

In 1981, Quebec produced 36 percent of Canada's 13.2 million hogs. Ontario's share was 31 percent.

With Quebec's momentum, and a possible assist from Ontario, the two eastern provinces may soon be exporting sizable amounts of pork and pork products to the U.S. Northeast. Altogether, New York plus the six New England states have 30 million consumers and produce only about 3 percent of their pork needs.

Quebec and Ontario Produce Two-Thirds of Canada's Hogs



That gives Quebec and Ontario packers and processors a potential market of about 45 million people on both sides of the border and a chance to compete directly with the U.S. Corn Belt. If the two provinces can establish a reputation as reliable suppliers at competitive prices, they may be able to make significant inroads into the New York-New England market, especially if the Canadian dollar remains weak.

Sharp Contrast in Western Provinces

The three Prairie provinces in western Canada (Alberta, Saskatchewan, and Manitoba) present a sharp contrast. However, they do turn out large supplies of exportable grains and a significant surplus of pork, so Canadians reason that these provinces should become another important base of beef and hog production.

A major potential market is the western United States, a large hog deficit area. Idaho produces only about a third of its pork consumption needs, Washington only 10 percent, California only 5 percent. Although the western U.S. Corn Belt has been successfully supplying most of this market, Canada's western provinces have a small transportation cost advantage.

For instance, comparing distances from Edmonton, Alberta (a center of Canadian hog production) and Omaha, Nebraska (a center of U.S. production), Edmonton is closer to the Boise, Seattle, and Portland markets and about as close as Omaha to the San Francisco area.

Despite these apparent cost advantages, however, Canada's western provinces lose out when it comes to demonstrating that they can be consistent, reliable suppliers to the U.S. Pacific Northwest. One major obstacle is the large fluctuations in hog production.

Hog production is not the first choice of most of Canada's western farmers. To a greater degree than their counterparts in the eastern provinces or in the U.S. Corn Belt, they seem eager to concentrate their efforts in cash crop production whenever grain can be marketed at attractive prices.

When the overseas market becomes slack and grain prices are depressed, hog numbers rise. Sluggish demand in 1969–71 resulted in a large buildup of grains stored on western Canadian farms. Producers responded to the glut by marketing some of the excess grain through hogs.

Then, in 1972 and 1973, the grain surplus disappeared rather quickly, mainly because of large Soviet purchases. Grain prices tripled, and Prairie province farmers cut their swine herds by 47 percent.

Fluctuations in hog numbers have been much smaller in eastern Canada where markets are larger, closer, and less scattered, where the marketing system is better attuned to hog producers' needs, and where producers are more likely to regard hogs as their primary enterprise.

With each major decline in western marketings, the East has assumed a larger role in Canada's total output. During the 1970's, the West's share fell from 46 percent to only 29 percent.

Other Western Obstacles

Partly because they cannot depend on a large and steady flow of hogs, the slaughter and processing plants in western Canada are reluctant to invest in new equipment. Packers are often working at less than half of their capacity.

Each time producers cut back on hog numbers, they lend support for closing down a meatpacking plant or keeping an outdated plant running rather than replacing it with a more efficient facility.

Western Canada also lacks the service industry that helps support hog production and marketing in Ontario, Quebec, and the U.S. Corn Belt. The hog industry in the Prairie provinces is without modern transportation facilities, credit arrangements, meat inspection procedures, advertising, and other important services.

These deficiencies exist because of variations in supply and because the industry is small and less concentrated than in the East or the U.S. Corn Belt. Producers are scattered over a thousand miles.

The typical argument in Canada for building up the hog industry in the western provinces is that the region produces a large surplus of feed grains (primarily barley). The parallel is drawn with the U.S. Corn Belt, which produces a large grain surplus as well as a large number of hogs.

However, if large feed grain surpluses alone were sufficient reason to promote more hogs on Canada's prairies, then a similar economic justification could be found for more hogs in North Dakota, northcentral Montana, and the Palouse area of Washington, Oregon, and Idaho. These three U.S. regions also produce large barley surpluses and the latter two are closer to U.S. hog deficit areas than are Canada's Prairie provinces.

If Canada's Prairie provinces were ever to start realizing significant profits in U.S. West Coast markets, they would almost certainly generate new competition from U.S. producers in barley-surplus areas. □

[Written by ERS economist Pat Weisgerber, who specializes in the analysis of Canadian agriculture for the International Economics Division.]

Why the Overexpansion?

Both Canada and the United States experienced a substantial buildup in hog numbers from 1978 to 1981.

Sharp increases in pork production in each nation helped trim hog prices far below breakeven levels by late 1979, yet the overexpansion continued until late 1980. Even last year, slaughter dropped only 4 percent in the United States and only 1 percent in Canada.

Action to turn the cycle around and correct the oversupply was needed 1 to 2 years sooner than it occurred. Why did this buildup in North American hog numbers go on for so long?

At least part of the answer is that there are now too few "inners" and "outers" to bring about a rapid shift in direction. In the past, production was more flexible and responsive because many producers would jump into the hog market when profits were high and quickly exit the market when profits started slipping.

Today, on both sides of the border, the bulk of hog supplies comes from large (quarter-million dollar and up), highly specialized operations. Overhead costs associated with these units are fairly stable whether they operate at full capacity or sit idle.

Despite the similar trends in both nations, Canadian producers have been even less responsive than U.S. producers to the reality of overproduction in the last few years. It's possible that they were reading market signals that predicted a supply downturn and concluded that now is the time to stick with hogs.

Or, maybe, they have a greater sense of security because of Canadian government stabilization programs, stop-loss insurance schemes, and other policies with help prop up the hog sector.

Their reaction could also reflect nervousness over possible supply management programs, perhaps giving them cause to maintain high output levels in anticipation of future production quotas.

Counties Without Doctors

Obtaining adequate health care is a major problem in many rural counties that face shortages of doctors and nurses.

A recent study by USDA's Economic Research Service reports that 138 U.S. counties—about 4.5 percent of the total—lacked an active physician. This means that about a half-million rural residents must leave their home counties to obtain professional health care.

The study found that 86 of these counties have a sufficient population and income base to support a physician's practice—even though they haven't yet enticed a doctor to set up an office there. The other 52 cannot do so without subsidies from the state, local, or federal government.

Nonphysician counties are located in 27 states. Most are found in a narrow band from Texas through western Kansas, Nebraska, South Dakota, and North Dakota. Texas leads with 22 nonphysician counties, but South Dakota has the highest percentage—30 percent of its counties are without a doctor.

The Southeast and western mountain areas also have some nonphysician counties. All northeastern counties have physicians.

Nonphysician County Characteristics

Nonphysician counties, compared with other rural counties, tend to have smaller, sparser populations, with slower growth rates and lower per capita incomes. Only 26 such counties are adjacent to or within metropolitan areas.

Nearly all the nonphysician counties are totally rural, with no towns exceeding 2,500 residents. In fact, 93 have less than 4,000 people in the entire county.

Average population density is only 3.6 persons per square mile, compared with the 25.4 persons per square mile for all U.S. nonmetro counties. Population grew at a modest rate in 76 nonphysician counties, and 62 actually lost population during the 1970's.

Per capita income in nonphysician counties was about 15 percent below that of other nonmetro counties. And this factor adds to the difficulty that many nonphysician counties have in attracting and supporting a physician's practice.

To cover such overhead as facilities, equipment, labor, insurance, and supplies, as well as to provide a reasonable income, the study determined that a physician requires about 8,250 patient visits per year at an average fee of $18, while a nurse practitioner requires about 6,100 such visits.

On this basis, the study found that 74 percent of all nonphysician counties could provide enough paying patients to enable a nurse practitioner to open an office, but only 62 percent could support a doctor. All except two nonphysician counties east of the Mississippi River could support a physician.

Lack of Patients

The 52 counties that can't support a doctor's practice are generally the most sparsely settled, and not adjacent to metropolitan areas. In 1980, their total population was 65,000, compared with 67,000 in 1970.

Sixteen of these counties could support a nurse practitioner, but declining populations may eliminate even this alternative in the future. The remaining 36—half of which are in Texas and Nebraska—can support neither a physician nor a nurse practitioner, and aren't likely to be able to do so in the future, the study indicates.

Without subsidies to support a doctor's or a nurse's practice, these 36 counties could consider establishing part-time satellite clinics affiliated with hospitals in nearby counties. They might also consider health service contracts with medical professionals in neighboring counties to provide medical visits to these counties.□

[Written by ERS researcher Virginia Getz, an economist with the Income Studies Program of the Economic Development Division.]

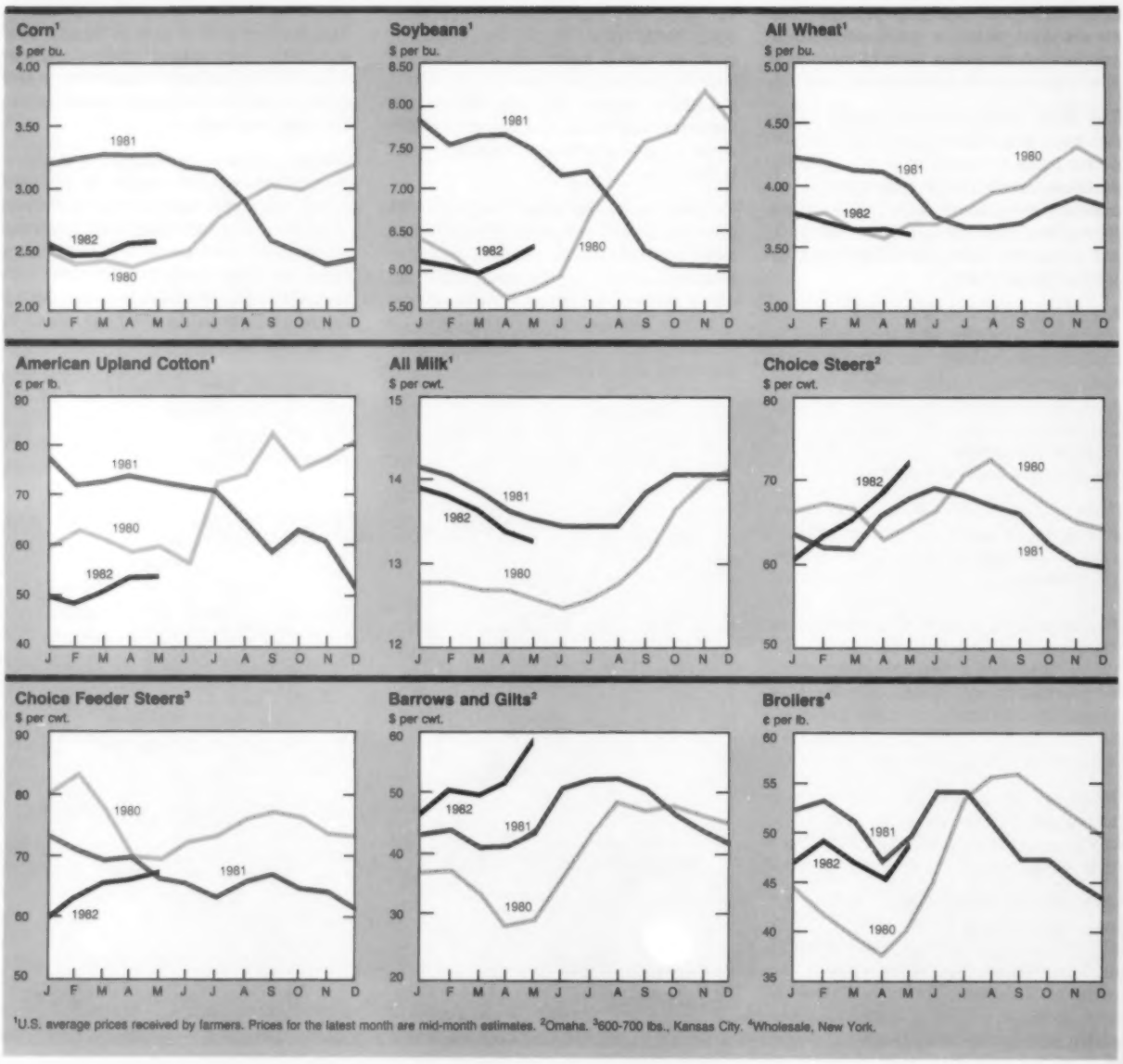
Nonphysician Counties Are Poorer, More Sparsely Populated

	All nonmetro counties	Nonphysician counties	Nonphysician counties that could support: A doctor or nurse practitioner	A nurse practitioner only	Neither
Number of counties	2,469	138	86	16	36
Average 1980 population	25,426	3,605	5,026	1,852	989
Persons per square mile	25.4	3.6	5.5	1.3	1.0
Population change, 1970–80	15.3%	9.5%	11.6%	−5.0%	−0.8%
1979 per capita income	$7,216	$6,240	$6,171	$6,689	$6,679

FARMLINE TRENDS

Monthly Price Monitor

Crop prices held fairly steady from April to May—small gains for corn, soybeans, and cotton, and a small decline for wheat. All remained below year-earlier levels. Livestock prices were much more positive. Choice steers topped $72 per cwt., the first time above $70 since August 1980 and more than $5 above the May 1981 price. Feeder steers hit $67.70, the highest price in more than a year. Barrows and gilts rose to $58.41, the highest since fall 1975 and nearly $16 per cwt. above the year-earlier price. Broilers gained more than 3¢ to within a fraction of May 1981's 49¢ a pound.



[1]U.S. average prices received by farmers. Prices for the latest month are mid-month estimates. [2]Omaha. [3]600-700 lbs., Kansas City. [4]Wholesale, New York.

Land Use Locator

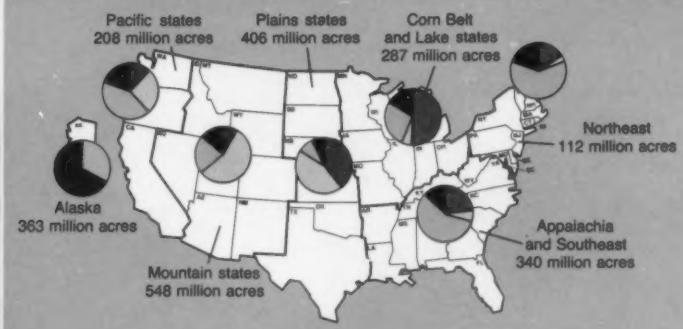
Major Land Uses by Region[1]

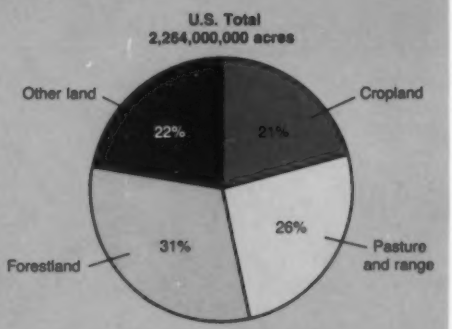
	Cropland[2]	Pasture and range	Forest land	Other land[3]	Regional total
		— Million acres —			
Alaska	—	1.3	117.9	243.3	362.5
Northeast	17.5	3.0	68.1	23.5	112.1
Pacific states[4]	25.7	53.7	87.5	41.4	208.3
Mountain states	43.6	306.5	119.0	78.8	547.9
Appalachia and Southeast	78.4	20.8	196.4	44.2	339.8
Plains states	158.7	184.7	36.1	26.5	406.0
Corn Belt and Lake states	146.9	16.7	77.6	45.8	287.0
U.S. total	470.8	586.7	702.6	503.5	2,263.6

[1]Figures are based on the 1978 Census of Agriculture and reports and records of agencies administering public land. [2]Includes cropland used for pasture and idle cropland. [3]Includes wasteland, urban land, and land in rural transportation, parks and recreation, military uses, etc. [4]Includes Hawaii.

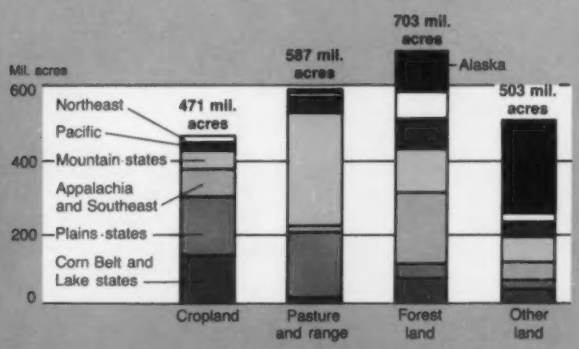
The proportion of land in crops, pasture, forests, and other uses varies widely across the country. Overall, 21% of the 2¼ billion U.S. land acres are classified as cropland, but percentages range from 8% of the land in the Mountain states to 51% in the Corn Belt and Lake states. Nearly two-thirds of the nation's cropland is concentrated in the Corn Belt, Lake, and Plains states. Cropland used for crops (usually 70%-80% of total cropland) peaked at 387 million acres in 1949, dropped to 330-335 million in the early 1960's, and finally returned to the record 387 million in 1980. The seesaw pattern was followed by most regions, but the Corn Belt, Mountain, and Pacific states ended up with more acres used for crops than they had in 1949, while the other regions ended up with fewer.

The Proportion of Land in Crops, Pasture, Forests, and Other Uses Varies Widely From Region to Region

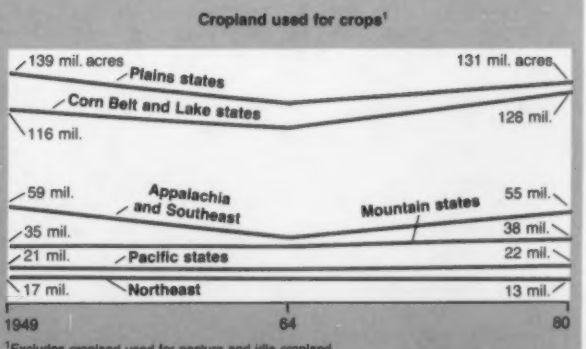




Nearly Two-Thirds of the Nation's Cropland is Concentrated in the Corn Belt, Lake, and Plains States, While More Than Half of Pasture and Rangeland Acreage is in the Mountain States



In the 1949-1980 Seesaw in Cropland Used for Crops, the Corn Belt, Mountain, and Pacific States Came Out Ahead



[1]Excludes cropland used for pasture and idle cropland

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